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REMARKS

Claims 1-19 are all the claims presently pending in the application. Claims 1-5 have been amended to more particularly define the invention. Claims 6-19 have been added.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1 stand rejected under 35 U.S.C. § 102(b) as being allegedly unpatentable over Yovanof et al. (US Patent 5,677,689).

This rejection is respectfully traversed in view of the following discussion.

I.   THE CLAIMED INVENTION

An exemplary aspect of the claimed invention (e.g., as recited in claim 1) is directed to an image compression method for compressing image data. The method includes storing compression characteristics data indicating compression characteristics of plural types of images in advance, acquiring an initial compression parameter, acquiring a corrective compression parameter, and performing a compression process on image data of an image to be compressed based on one of the initial compression parameter and the corrective compression parameter.

The compression characteristics indicate a relationship between a bit rate, which is a ratio between data volume and the number of pixels of image data, and a compression parameter associated with image quality and compression rate of the compression process. Further, acquiring an initial compression parameter acquires the initial compression parameter based on compression characteristics data of an average image and a target bit rate.

Importantly, acquiring the corrective compression parameter includes acquiring information indicating complexity of the image to be compressed based on the bit rate of compressed image data acquired in performing the compression process , a compression parameter used in the performing the compression process, and the compression

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characteristics data, and acquiring the corrective compression parameter based on compression characteristics data of an image having the complexity and the target bit rate (Application at Figure 3; page 13, line 10-page 15, line 4).

A conventional method includes acquiring image data having a predetermined data volume based on a data volume acquired through a pre-compression process on image data in a sampling area set in a certain position on a screen. However, this inevitably results in an increased processing time (Application a page 3, line 24-page 4, line 6).

In the claimed invention, on the other hand, acquiring a corrective compression parameter includes acquiring information indicating complexity of the image to be compressed based on the bit rate of compressed image data acquired in performing the compression process, a compression parameter used in the performing the compression process, and the compression characteristics data, and acquiring the corrective compression parameter based on compression characteristics data of an image having the complexity and the target bit rate (Application at Figure 3; page 13, line 10-page 15, line 4). This may help to allow a compression process to be performed at a high speed (Application at page 15, lines 6-11).

II.   THE ALLEGED PRIOR ART REFERENCE

The Examiner alleges that Yovanof anticipates the invention of claims 1-5. Applicant submits, however, that there are features of the claimed invention that are not taught or suggested by Yovanof.

Yovanof discloses a method for compressing digital image data which includes adjusting the value of the Q-factor. Specifically, the method estimates the activity metric based on the average sum of the absolute value of the quantized DCT coefficients per block. A mathematical model relating the image activity metric to the Q-factor for a given value of a target compression ratio, provides an estimated Q-factor value Q_{new} that yields a pre-specified target compression ratio (Yovanof at col. 2, line 65-col. 3, line 9).

However, Applicant submits that Yovanof does not teach or suggest acquiring a corrective compression parameter including "*acquiring information indicating complexity of the image to be compressed based on the bit rate of compressed image data acquired in*

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performing said compression process, a compression parameter used in said performing said compression process, and the compression characteristics data; and acquiring the corrective compression parameter based on compression characteristics data of an image having the complexity and the target bit rate", as recited, for example, in claim 1. This may help to allow a compression process to be performed at a high speed (Application at page 15, lines 6-11).

Clearly, this feature is not taught or suggested by Yovanof. Indeed, the Examiner appears to allege that the "active metric A" of Yavanof is equivalent to the "compression characteristics data" in an exemplary aspect of the claimed invention (e.g., see Office Action at page 2, last line, to page 3 line 3). Applicant respectfully disagrees.

In fact, Yavanof merely defines that "an activity metric reflects the complexity of the input image", and fails to teach or suggest that the activity metric A indicates a relationship between a bit rate and a compression parameter. That is, Yavanof does not teach or suggest the compression characteristics of the exemplary aspect of the claimed invention.

In addition, Yavanof merely discloses that the value Q_{init} (initial value) has been found experimentally (Yavanof at col. 5, lines 37-39), and fails to teach or suggest acquiring the initial compression parameter (Q_{init}) based on compression characteristics data (activity metric A). That is, Yavanof does not teach or suggest <u>acquiring an initial compression parameter</u> as in an exemplary aspect of the claimed invention.

Furthermore, Vavanof discloses obtaining Q_{new} (which the Examiner attempts to interpret as a corrective compression parameter) using the equations 1 to 3 in columns 5 to 6 in Yavanof. However, it is clear that <u>none of the equations 1 to 3 include a target bit rate</u>. Therefore, Yavanof clearly does not teach or suggest <u>acquiring a corrective compression parameter (Q_{new}) based on a target bit rate</u>, as in an exemplary aspect of the claimed invention.

In addition, the Examiner attempts to rely on col. 8, lines 39-63 in Yovanof to support his position. However, nowhere in this passage or anywhere else for that matter, does Yovanof teach or suggest acquiring information indicating complexity of the image to be compressed **based on the bit rate of compressed image data acquired in performing the compression process, a compression parameter used in the performing the compression**

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process, and the compression characteristics data, and acquiring the corrective compression parameter based on compression characteristics data of an image having the complexity and the target bit rate (e.g., see Application at page 11, line 24-page 15, line 4).

Indeed, col. 8, lines 39-63 in Yovanof simply states that an output 424 can be tested and if the target compression ratio (e.g., ratio of the size of image data to size of compressed image data) for that output 424 is not met (i.e., where insufficient compression is achieved), that same output 424 may be further compressed (Yovanof at col. 8, lines 45-49). This is completely different from the claimed invention which acquires information indicating complexity of an image (e.g., an original image) and acquires a corrective compression parameter based on compression characteristics data of an image having the complexity and the target bit rate.

Indeed, Yovanof simply states that "[t]he newly estimated Q-factor is provided by a mathematical model relating the activity metric to the Q-factor" (Yovanof at col. 8, lines 52-53). Nowhere does Yovanof teach or suggest that the "newly estimated Q-factor" is provided by acquiring information indicating a complexity of an image to be compressed. Indeed, Yovanof is clearly not concerned with the complexity of the original image at this point because he is not using "newly estimated Q-factor" to "process" the original image. Instead, Yovanof is using the "newly estimated Q-factor" to further compress the compressed output 424.

Further, nowhere does Yovanof teach or suggest that the "newly estimated Q-factor" is provided based on a target bit rate. Indeed, in the claimed invention the "bit rate" may be a ratio between data volume and the number of pixels of image data. Nowhere does Yovanof teach or suggest that a target "bit rate" (e.g., a target ratio between data volume and the number of pixels of image data) has anything at all to do with selecting the "newly estimated Q-factor".

Thus, the Yovanof method is completely unrelated to the claimed invention.

Therefore, Applicant submits that there are features of the claimed invention that are not taught or suggested by Yovanof. Therefore, the Examiner is respectfully requested to withdraw this rejection.

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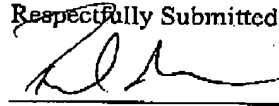## III. FORMAL MATTERS AND CONCLUSION

Applicant notes that the specification has been amended to address the Examiner's objections thereto.

In view of the foregoing, Applicant submits that claims 1-19, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.
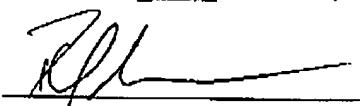
Respectfully Submitted,

Date: 3/28/07

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that the foregoing Amendment was filed by facsimile with the United States Patent and Trademark Office, Examiner Jose Torres, Group Art Unit # 2112 at fax number (571) 273-8300 this 28th day of March, 2007.

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